

REMARKS

Initially, in the Office Action dated April 26, 2004, the Examiner has objected to the claims because the line numbering does not comply with the preferred format. Claims 1 and 2 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,112,248 (Maciel et al.) in view of U.S. Patent No. 5,490,258 (Fenner). Claim 3 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Maciel et al. in view of Fenner.

By the present response, Applicant has submitted new claims 4-7 for consideration by the Examiner and submit that these claims do not contain any prohibited new matter. Applicant has amended claim 1 to further clarify the invention. Claims 1-7 remain pending in the present application.

Claim Objections

The Examiner has requested that all future correspondence include recommended line numbering. Applicants submit that in accordance with the new rules, claim line numbering is no longer required for the claims. Accordingly, Applicant respectfully requests that these objections be withdrawn.

35 U.S.C. §103 Rejections

Claims 1 and 2 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Maciel et al. in view of Fenner. Applicant respectfully traverses these rejections.

Maciel et al. discloses dynamic balance of the traffic among data processing devices interconnecting networks to improve the networking performance. For

network traffic flowing between a first network and a second network, the traffic is distributed among the data processing devices that act as routers according to the traffic amount. An algorithm for balancing the traffic is used to select appropriate data processing devices as routers.

Fenner discloses associative memory for very large key spaces where to provide for fast access times with very large key fields, an associative memory utilizes a location addressable memory and look up tables to generate from a key an address in memory storing an associated record. The look up tables, stored in a memory, are constructed with the aid of arithmetic data compression methods to create a near perfect hashing of the keys. For encoding into the look up table, keys are divided into a string of symbols. Each symbol is assigned an index value such that a sum of index values for symbols of a particular key is a unique value that is used as an address to the memory storing the record associated with that key.

Regarding claims 1, 3 and new claims 4 and 7, Applicant submits that none of the cited references, taken alone or in any proper combination, disclose, suggest or render obvious, the limitations in the combination of each of these claims of, inter alia, load balancing for a first network and a second network that includes storing source addresses of the terminals for relaying data in the first network, in a terminal address table provided in each apparatus relaying data between the terminals and the first network, each apparatus relaying data having a source address stored in its associated table, or measuring a load of data to be relayed in the first network and exchanging load data between a plurality of the apparatus, or if the load data to be

relayed in the first network via one apparatus is largest or relatively large, selecting another apparatus having a smallest or relatively small load, and deleting a source address selected in accordance with the load to be relayed in the first network for each of source addresses of the terminals, from the terminal address table, or notifying the source address of the terminal deleted from the terminal address table of the one apparatus to the selected other apparatus, or storing the notified source address in the terminal address table of the notified other apparatus. Maciel et al. discloses using a standard protocol for balancing a network traffic. Maciel et al. does not disclose or suggest a transmission source address, as recited in the claims of the present application. Therefore, in Maciel et al., traffic from a terminal takes a different path for each destination. In contrast, the limitations in the claims of the present application recite storing source addresses of the terminals for relaying data in the first network in a terminal address table provided in each apparatus relaying data between the terminals and the first network, each apparatus relaying data having a source address stored in its associated table. Therefore, according to the present invention, data is passed through a processing apparatus predetermined for each terminal so that control of traffic balancing can be conducted with a higher accuracy.

The Examiner asserts that Maciel et al. discloses storing source addresses of the terminals at col. 1, line 41 - col. 2, line 14. However, this portion of Maciel et al. merely discloses that communication between two data processing devices is done using routers and that the data processing devices have routing tables that include

an entry representing a target network and an entry representing a next hop address of the target network and a flag. This is not storing source addresses of the terminals for relaying data in the first network, as recited in the claims of the present application. Maciel et al. discloses routing tables 32A-32E that show routes for transferring packets to networks, which respective data processing units take as targets. The routing tables have entries representing a target network. This is not terminal addresses or source address of the terminal, as recited in the claims of the present application. Moreover, Maciel et al. does not disclose apparatus relaying data between the terminals and the first network, each apparatus relaying data having a source address stored in its associated table.

The Examiner further asserts that Maciel et al. discloses if the load data to be relayed in the first network via one apparatus is largest or relatively large, selecting another apparatus having a smallest or relatively small load and deleting a source address in accordance with the load to be relayed in the first network for each source addresses of the terminals, from the terminal address table, at col. 6, lines 18-27 and lines 66 - col. 7, line 7, col. 9, lines 14-30 and claims 1 and 7. However, these portions of Maciel et al. merely disclose removing all router entries from the table in memory for routers that are not active or routers with the lowest value of priority and that a value of the route (k) is used in calculations for network traffic balancing and load balancing among the routers. However, this is not deleting a source address selected in accordance with the load to be relayed in the first network for each

source addresses of the terminals from a terminal address table, as recited in the claims of the present application.

The Examiner admits that Maciel et al. does not disclose or suggest notifying the source address of the terminal deleted from the terminal address table of one apparatus to the selected other apparatus or storing the notified source address in the terminal address table of the notified other apparatus, but asserts that Fenner teaches these limitations at col. 14, lines 12-41. However, these portions of Fenner merely disclose that if received source address and destination address are new source address and destination address which have not been stored in tables 68 and 66, they are stored in the tables 68 and 66. Further, in the absence of transfer for a given time period, a learned route logic 94 detects the absence to thereby delete the source address and destination address from the tables 68 and 66 through a learned address logic 88. This is caused due to the fact that a different route has been made as a result of aircraft 10 and ship 12 (see Fig. 1). These portions of Fenner merely disclose storing transferred source address and destination address in tables. This is not notifying a source address of the terminal deleted from a terminal address table of one apparatus to the selected other apparatus or storing the notified source address in the terminal address table of the notified other apparatus, as recited in the claims of the present application. These portions of Fenner have nothing to do with a source address in a table operating to relay a message. Further, Fenner does not relate at all to load balancing as in the limitations in the claims of the present application. Fenner's disclosure of storing a source address in a table is not for

relaying data having the source address stored in the table, as recited in the claims of the present application. The purpose of storing a source address in a table disclosed in Fenner is completely different from that recited in the claims of the present application. Therefore, Applicant submits that one of ordinary skill in the art would have no motivation to combine Maciel et al. --that relates to dynamically balancing network traffic using address resolution protocol--with Fenner --that relates to associative memory for very large key spaces.

Regarding claims 2 and new claims 5 and 6, Applicants submit that these claims are dependent on one of independent claims 1 and 4 and, therefore, are patentable at least for the same reasons noted regarding these independent claims. For example, Applicant submits that none of the cited references disclose or suggest when a failure at the other apparatus is detected, judging whether the load of the one apparatus is smallest or relatively small, or if the load of the one apparatus is smallest or relatively small, inheriting an entry of the other apparatus.

Accordingly, Applicant submits that none of the cited references, taken alone or in any proper combination, disclose, suggest or render obvious the limitations in the combination of each of claims 1-7 of the present application. Applicant respectfully requests that these rejections be withdrawn and that these claims be allowed.

In view of the foregoing amendments and remarks, Applicant submits that claims 1-7 are now in condition for allowance. Accordingly, early allowance of such claims is respectfully requested.

U.S. Application No. 09/768,472

To the extent necessary, Applicant petitions for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (referencing attorney docket no. 500.39540X00).

Respectfully submitted,

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